# Framework for Learning from Home – Year 5    2021  Week 5
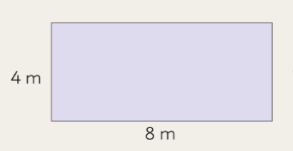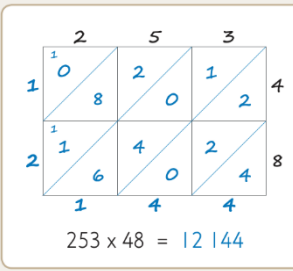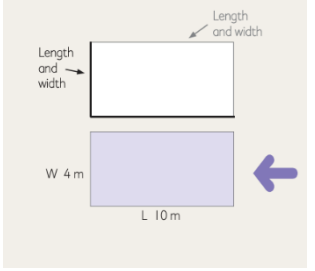
## 第五周　　五年级在家学习大纲

For some of the below activities you may need your parents help. Show each completed activity to your parents to check.

| | Monday 9th August | Tuesday 10th August | Wednesday 11th August | Thursday 12th August | Friday 13th August |
|---|---|---|---|---|---|
| **Morning 上午** | **English 英文** **Viewing**: have a look at the stimulus below 'Strength of a Thousand' and write down 5 of your noticings. 查看：查看下面"千人之力"的图片，并写下你注意到的五件事。 **Writing**: Using this story starter for 'Strength of a Thousand', continue the story. Remember to use your 7 Steps for Writing strategies to make your story engaging. answer these questions based on the stimulus. 写作：使用"千人之力的这个故事开头，接着写故事。记住使用 7 个写作步骤来使故事引人入胜。根据图片回答问题。 *Since she was young, Kate was different to normal people. It was only now* | **English 英文** **Reading:** **Library ZOOM Session** with Mr Philpott Mr Philpott 上课时间 **10 am** – Classes **5D, 5P, 5L** and **5J** **5D, 5P,5L** 和 **5J** 班级上课时间。Join Zoom Meeting https://nsweducation.zoom.us/j/68251668283?pwd=WE00dUY4eEV3enFKeWJ4VGlnQXY1Zz09 **10:30 am** – Classes **5S, 5M** and **5K** **5S，5M, 5K** 上课时间： Join Zoom Meeting https://nsweducation.zoom.us/j/68406478658?pwd=MHE4dCtOQ2MwV2ozNzdJT1BUN25iZz09 **Respond:** using the stimulus from Monday 'Strength of a Thousand' | **English 英文** **Reading:** Read or listen to the news article of the day from https://www.kidsnews.com.au/ and complete the quick quiz related to it. Copy and paste the questions into your PowerPoint and complete them. 听读链接的新闻，完成作业并将问题复制并粘贴到你的 PowerPoint。 **Spelling:** complete a task from the spelling grid using this week's soundwaves word list. 拼写：使用本周的声波单词列表，完成拼写作业。 **Respond:** answer these questions based on the stimulus 'Strength of a Thousand'. 回答：根据图片"千人之 | **English 英文** **Reading and Responding:** Read one chapter of a novel or text from your school magazine. 从学校杂志中阅读小说或课文的一章。 https://bit.ly/2UtJxKg Think about how the story you read made you feel. Write and make about a connection: text to text; text to world; or text to self. 你所读过的故事有什么感受。把故事联系写下自己的感想，或给自己发短信。 **Spelling:** complete a task from the spelling grid using this week's soundwaves word list. 完成拼写作业 | **English 英文** **Reading:** Listen to the Squiz Kids daily podcast: 收听 Squiz Kids 每日播客： https://www.squizkids.com.au/ **Respond:** Record the 5 most interesting facts. Why are they interesting to you? 写下 5 个最有趣的事实。为什么它们对你来说很有趣？ **Soundwaves:** Complete one page of Unit 23 below and the online activities for this week's unit. 完成第 23 单元的一页和本周单元的在线练习。 www.soundwaveskids.com.au Access code: sit815 |

| | | | | |
|---|---|---|---|---|
| *though that her true powers were beginning to be realised.*<br>*She was becoming the person she was born to be. It was her destiny.*<br>Continue the story about 'Strength of a Thousand'.<br>用以上的故事开头，接着写，<br>**Spelling**: Complete one page of Unit 23 below and the online activities for this week's unit.<br>拼写：完成下面第 23 单元的一页和本周单元的在线活动。<br>[www.soundwaveskids.com.au](www.soundwaveskids.com.au)<br>Access code: sit815<br>**Extension**: 延伸作业<br>Please note, there is an extension word list. Write a paragraph with at least 10 words from this Extension list. Find the dictionary meaning of at least 10 words.<br>请注意，有一个延申词列表。从这个列表中写一个至少包含 10 个单词的段落。找出至少 10 个单词的含义。 | complete the following grammar activities:<br>回答：用星期一"千人之力"的刺激完成以下语法活动：<br><u>Sick Sentences</u> 病句分析<br>These sentences are 'sick' and need help to get better. Can you help?<br>1. Kate lifted the truck.<br>2. Kate touched the truck.<br>3. The metal creaked<br>4. She held it high<br>5. She felt incredible<br><u>Similes</u>　比喻<br>Can you think of similes to describe Kate's powers?<br>你能想出比喻来描述凯特的力量吗？<br>1.She could run as fast as _____.<br>2. She could fly like a ____.<br>3. Her body was as strong as _____.<br>4. Her eyes glowed red like _____.<br>**Mr Poulos' Persuasive Writing Lesson: Week 5 Lesson 1A**<br>**Mr Poulos 写作课**<br>Look at Mr Poulos' PowerPoint and video instructions.<br>Think about the topic:<br>先看 Mr Poulos 的 PPT, 然后思考以下问题<br>*Should we put our hand up in class.* | 力"回答这些问题。<br>1. What does 'destiny' mean?<br>2. What do you think Kate's destiny is?<br>3. How is she different to normal people?<br>4. How do you think she will use her powers?<br>5. How would you use such powers, if you had them?<br>6. Is Kate from Earth or a different planet?<br>7. How will other people react to seeing Kate's powers?<br>8. What will she do with the truck? Why has she picked it up?<br>**Mr Poulos' Persuasive Writing Lesson: Week 5 Lesson 1B** 写作课<br>Look at Mr Poulos' PowerPoint and video instructions.<br>先看老师的 PPT，思考以下问题<br>Think about the topic:<br>*Should we put our hand up in class.*<br>Choose whether you are FOR or Against this argument. Brainstorm your ideas and write your introduction and first paragraph | **Mr Poulos' Persuasive Writing Lesson: Week 5 Lesson 1C** 写作课<br>Look at Mr Poulos' PowerPoint and video instructions. 先看 Mr Poulos 的 PPT, 然后思考以下问题：<br>Think about the topic:<br>*Should we put our hand up in class.*<br>Continue the writing you started yesterday by adding your second and third paragraph and your conclusion.<br>继续你昨天开始的写作，添加你的第二和第三段以及你的结论。 | **Optional Extension Activity 'Strength of a Thousand'**<br>Imagine you have Kate's powers. Can you draw something you would do?<br>想象一下你拥有凯特的权力。你能画出你能做的东西吗？<br><br>. |

| | | | | | |
|---|---|---|---|---|---|
| | | Choose whether you are FOR or AGAINST this argument. Brainstorm your ideas for your chosen side. On Wednesday and Thursday this week, you will complete your writing. Today you will just need to complete your brainstorm.<br>选择你是支持还是反对这个论点。为你选择的那一方集思广益。你将在这周的周三和周四，完成你的写作。今天你只需要完成你的"头脑风暴"。 | 选择你是支持还是反对这个论点。"头脑风暴"你的想法并写下你的介绍和第一段。 | | |
| **Break** | Break 小憩 | Break 小憩 | Break 小憩 | Break 小憩 | Break 小憩 |
| **Middle** | **Mathematics：数学**<br>**Multiplication Focus**<br>Complete the worksheet **Multiplication 4 digit x 1 digit.**<br>When you multiply a 4 digit number, remember to multiply the ones first, then the tens, the hundreds and finally the thousands in that order by the single digit.<br>当乘以 4 位数字时，记住先乘以个位数，然后是十位数、百位数，最后是千位数乘以一位数。<br>ones (3 x 2 ones)<br>tens (3 x 7 tens)<br>hundreds (3 x 1 hundred)<br>thousands (3 x 4 thousands)<br>T H t O<br>2<br>4 1 7 2<br>multiply<br>x 3<br>1 2 5 1 6<br><br>Complete the **HotMaths** activities set by the teacher, including one HotSheet. | **Mathematics: ：数学**<br>**Multiplication Focus**<br>完成工作表乘法 3 位 x 2 位作业<br>We will be looking at the following strategies:<br>我们将研究以下策略：<br>**Double and Half:** To find the answer to the multiplication below, you double one number (15 x 2 = 30) and halve the other number (204 ÷ 2 = 102).<br>204 → 102 (halved)<br>x 15 → x 30 (doubled)<br>3060<br><br>**Split and multiply:** When multiplying a number by a 2-digit number, multiply by the ones digit first, then multiply by the tens digit.<br>拆分和乘法：当一个数乘以一个两位数时，先乘以个位，再 | **Mathematics: ：数学**<br>**Multiplication Focus**<br>Complete the worksheet **Lattice method of multiplication.**格子乘法<br>**完成数学作业**<br>This method of multiplication is a very old method which probably originated in Arabia or India, and was passed on through China to Italy and the rest of Europe. The method is easy when the grid has been drawn. To learn how to do it, follow the examples in the worksheet.<br>这种乘法是一种非常古老的方法，可能起源于阿拉伯或印度，并通过中国传到意大利和欧洲其他地区。绘制网格后，该方法很容易。要了解如何操作，请按照表中的 | **Mathematics: ：数学**<br>**Area Focus**<br>Complete the worksheet **Area of rectangles.**完成数学作业<br>Finding the area of a rectangle is as simple as multiplying the length of the rectangle by its width. The formula for finding the area of a rectangle is: A = L x W<br>求矩形的面积就像将矩形的长度乘以其宽度一样简单。求矩形面积的公式是：A = L x W<br><br>4 m<br>8 m | **Mathematics: ：数学**<br>**Area Focus**<br>Complete the worksheet **Perimeter of rectangles.**<br>完成数学作业<br>Perimeter is the distance around the perimeter boundary of a shape. Rectangles have two lengths and two widths. If you measure only one length and one width you can work out the perimeter (P). Simply add the length and the width (L + W), then double (x2).<br>周长是围绕形状周界边界的距离。矩形有两种长度和两种宽度。如果您仅测量一种长度和一种宽度，则可以计算出周长（P）。只需将长度和宽度相加（L + W），然后加倍（x2）。 |

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| 完成老师指定在 **HotMaths** 的数学作业<br>**Geography**: view the Inquisitive geography lesson.<br>地理：查看 Inquisitive 地理课程。<br>http://inq.co/class/spz<br>Access code: 3297<br>Complete page 2, 3 and 4 of this lesson. You can find these pages below (The Asian Continent)<br>完成本课的第 2、3 和 4 页。你可以在下面找到这些页面（亚洲大陆）<br>**Optional Extension** 选做题<br>**Activity: iMaths**<br>**Begin the iMaths investigation: Radical Renovation. Use this link to access additional resources**<br>使用以下链接取得更多参考资料 www.imathskids.com.au<br>Access code: read664<br>**You will find the sheets you need below.**<br>你可以在下面找到所需页面。 | 乘以十位。<br>**Science:** We are learning all about matter today. Please read the text **Phases of Matter** and answer the questions.<br>科学：我们今天学习有关物质的所有知识。请阅读文本阶段的物质并回答问题。<br>**Wellbeing**: Complete the 'Sense Countdown' activity below.<br>福利：完成下面的"感知倒计时"活动。<br>**Languages**: please complete any Languages work set by your Languages teacher on your Languages Teams account.<br>语言：完成语言老师在的语言团队帐户上设置的语言作业。<br>**Viewing:** Watch this week's BTN episode and write a summary of one of the stories.<br>观看：观看本周的 BTN 剧集并撰写其中一个故事的摘要<br>https://www.abc.net.au/btn/ | 示例进行操作。<br><br>Example 2: 253 x 48<br><br>$253 \times 48 = 12\,144$<br><br>Complete the **HotMaths** activities set by the teacher, including one HotSheet.<br>完成 HotMaths 数学作业<br><br>**Wellbeing Wednesday**<br>**福利时间 12:00 – 3:00**<br>**Try these activities with your family…**<br>Go for a walk with a family member 和家人一起去散步<br>Do something for a family member – you could help make lunch, tidy part of the house or fold the washi | $$A_\square = L \times W$$<br>$$= 8\,m \times 4\,m$$<br>$$= 32\,m^2$$<br>**Wellbeing**: Complete the 'Heartbeat' activity below.<br>完成下面 Heartbeat'练习<br><br>Complete the **HotMaths** activities set by the teacher, including one HotSheet.<br>完成 **HotMaths** 作业<br>**Optional Extension**<br>**Activity: iMaths** 选做题<br><br>**Continue: Radical Renovation. Use this link to access additional resources**<br>继续：彻底改造。使用此链接访问其他资源<br>www.imathskids.com.au<br>Access code: read664<br>**Sheets you need are below.** | Complete the **HotMaths** activities set by the teacher, including one HotSheet.<br>完成 **HotMaths** 作业<br><br>**Languages**: please complete any Languages work set by your Languages teacher on your Languages Teams account.<br>完成中文课作业<br><br>**Optional Extension**<br>**Activity: iMaths** 选做题<br>**Complete: Radical Renovation.**<br>www.imathskids.com.au<br>Access code: read664<br>**Sheets you need are below.** |
| **Break** | Break 小憩 | Break 小憩 | Break 小憩 | Break 小憩 | Break 小憩 |

| After-noon 下午 | **P.E- Fitness ( 20min)体育**<br>Complete the P.E Workout by following along with<br>**20 min BEGINNERS Low Impact Low Intensity Workout, The Body coach TV**<br>按照以下步骤完成体育锻炼。<br>初学者：20 分钟低冲击低强度锻炼，跟着电视锻炼<br>20 Minute BEGINNERS Low Impact Low Intensity Workout | The Body Coach TV - YouTube<br>Please have water handy when exercising. Find an appropriate space to exercise, free of hazards.<br>锻炼时注意安全和防护工作。<br>**Creative Arts: 美术**<br>Have you heard of Gary Hirsch and his Botjoy movement?<br>你听说过 Gary Hirsch 和他的 Botjoy 运动吗？<br>Gary painted his first Bot on the back of a domino in 2010 and has since painted around 60 000.<br>加里于 2010 年在多米诺骨牌背面绘制了他的第一个机器人，此后已经绘制了大约 60,000 个机器人。The Bots are 'programmed' to spread love, joy, encouragement and hope.<br>这些机器人被"编程"来传播爱和希望。<br>Try and design your own Botjoy. Look at the next 2 slides of Botjoys that others have designed.参看以下其他人设计的 Botjoys 的 2 张幻灯片。尝试设计你自己的 Botjoy。 | **P.E 体育**<br>Complete the P.E Workout by following along with the 跟着 Ruby Broom 完成体育锻炼<br>**Ruby Broom 🎃 | A Halloween Cosmic Kids Yoga Adventure!**<br>Ruby Broom 🎃 | A Halloween Cosmic Kids Yoga Adventure! - YouTube<br>**Please have water handy when exercising. Find an appropriate space to exercise, free of hazards.**<br>锻炼时注意安全和防护工作。<br>Creative Arts:美术 **Craft-create a sculpture representing an athlete in your favourite sport at the Tokyo Olympics using aluminium foil (alfoil). Ask your parents if they have a roll that you can use from your kitchen supplies. Watch the video below and follow the instructions on sculpting a human figure with aluminium foil. Start sculpting and get creative. See if your family can guess what sport your athlete is representing.**<br>工艺 - 使用铝箔（铝箔）制作代表东京奥运会上你最喜欢的运动中的运动员的雕塑。得到父母允许下使用铝箔制作。问问你的父母他们是否有你可以从厨房用品中使用的卷。观看视频并发挥你的创意制作雕塑。看看你的家人是否能猜出你的运动员代表什么运动。<br>Foil Human Figure Sculpture - YouTube 铝箔人像雕塑 | Learn a new skill such as origami or juggling (you can use objects such as rolled up socks)<br>为家人做点事。如：做午饭，整理房子，等等。<br>学习新技能，例如折纸或杂耍（可以使用卷起的袜子等物品）<br>https://www.youtube.com/watch?v=KfnyopxdJXQ | **P.E 体育**<br>Complete the P.E Workout by following along with<br>**Yoga For Kids with Alissa Kepas**<br>按照以下步骤完成体育锻炼<br>与 Alissa Kepas 一起为孩子们准备的瑜伽<br>Yoga For Kids with Alissa Kepas - YouTube<br>Please have water handy when exercising. Find an appropriate space to exercise, free of hazards.<br>运动时请备好水。找一个安全、合适的空间锻炼。<br>**Optional Extension Activity: 选做题**<br><br>**Continue working on ZOO STEM challenge competition:**<br><br>**ZOO STEM 挑战赛：**<br><br>**https://taronga.org.au/education/digital-programs-online-resources/enrichment-design-competition** | **Activities: 练习**<br>Complete an activity from the "activities and ideas for home for parents of primary learners" sheet on the back page of this booklet.<br>**Geography**: view the Inquisitive geography lesson.<br>本手册封底的"小学生家长在家的活动和想法"表。<br>地理：查看地理课程。<br>http://inq.co/class/spz<br>Access code: 3297<br>Complete pages 5 and 6 of this lesson. You can find these pages below (The Asian Continent)<br>完成本课的第 5 页和第 6 页。您可以在下面找到这些页面（亚洲大陆）<br>Catch-up:<br>Finish any unfinished tasks from Monday –Thursday<br>完成没做完的作业。 |

Strength of a Thousand

# Unit 23

## ir ur or er — bird nurse world fern

### List Words
burnt
burst
refer
prefer
person
perfectly
reverse
research
earthen
worse
further
surface
certain
curtain
concern
purchase
purpose
dessert
suburban
earliest
observant
conferred
germinate
circumnavigate
circumstance

_____

_____

1. **Colour** the graphemes that represent (ir ur or er) in the List Words.

2. **Go** to the List Words for Unit 23. **Count** the sounds and identify all the graphemes in each List Word.

### Grapheme Chart

| grapheme | word |
|---|---|
| | |

3. **Write** any other letters that can represent (ir ur or er) on the Grapheme Chart. **Write** one word example for each.

4. **Colour** words where you hear (ir ur er) in each row.

| ir | tired circumstance dirtiest repair |
| ur | suburban curtain honour courage |
| or | worthwhile horizon worse force |
| er | dessert desert concern neither |
| ear | appear heart earthen research |
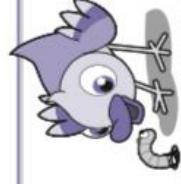
5. **Write** List Words with (ir ur or er) in these positions to fit on the lines.

| first | second | fourth | fifth |
|---|---|---|---|
| — — — | — — — | — — — | — — — |
| — — — | — — — | — — — | |

6. **Write** words from the brackets to finish these sentences.

★ **Burst** can be a verb meaning *to break open*. **Bust** can be a noun meaning *a model or sculpture of the head and shoulders of a person*. **Farther** refers *to distance only*. **Further** can refer to *more time, information and so on*.

The balloon _____ when it hit the sharp corner of the clay _____ of a famous artist. **(bust, burst)**

The delicious _____ was made from the fruit of the cactus plant which grows well in the _____. **(desert, dessert)**

I needed _____ information as I didn't know how much _____ it was to the next village. **(farther, further)**

Birds usually wake _____ than any other creature. **(earlier, earliest)**

7. **Unjumble** the List Words in the brackets. **Fill** in the columns with the correct verbs.

| Today... | Yesterday... | They have... | They are still... |
|---|---|---|---|
| bubbles (tsrub) | bubbles | | |
| fires (urnb) | fires | | |
| cars (veerrse) | cars | | |
| subs (acefrsu) | subs | | |

50 Sound Waves 5 Student Book     ISBN 978 1 74135 160 6

**8** **Complete** the table.

★ When adding **ed** and **ing** to words ending with **er**, we usually double the letter **r** when the grapheme **er** is representing 🐦 [ir ur or er]

| Base word | Add ed | Add ing |
|---|---|---|
| refer | | |
| prefer | | |
| confer | | |
| remember | | |
| answer | | |
| consider | | |

**9** **Read** the purple message text and study the table beside it. **Complete** the sentences below with words from the table.

★ When comparing some adjectives, rather than adding **er** and **est** as in *earlier* and *earliest*, the words change completely. We do not say *gooder, goodest* or *badder, baddest*.

| Adjectives (describing 1) | Comparatives (comparing 2) | Superlatives (comparing 3 or more) |
|---|---|---|
| good | better | best |
| bad | worse | worst |
| little | less | least |
| many | more | most |
| much | more | most |

This painting is **good**. That one is **better**. The next one is the _____ of all in the competition.

Today's weather is **bad**. Tomorrow will be **worse** and the next day will be _____ of all.

I only ate a **little** of my lunch. You ate even **less** and Jan ate the _____ of the three of us.

**Many** people live in Queensland. **More** live in Victoria but New South Wales has the _____.

I didn't save **much** money. My sister saved _____. My brother saved the _____.

**10** **Build** word families with the following base words.
➤ Go to Helpful Hints for help.

*purpose* (ly, ful, less) | *perfect* (im, ly, ion) | *observe* (er, ant, ation) | *certain* (un, ly, ty)

## Challenge

**Find** words formed from the Latin roots **circum** meaning *round* and **circ** meaning *a ring* in the circular coil.
**Discuss** with a partner how the meanings relate to each word.

circumstancecircumstantialcircumventcircumscribecircumspectcircumferencecircumnavigatecircumvolouscircuity circle circled circling circular circlet circulate circulation

**ir ur or er**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| burnt | | | | | | | | | | | | |
| burst | | | | | | | | | | | | |
| refer | | | | | | | | | | | | |
| prefer | | | | | | | | | | | | |
| person | | | | | | | | | | | | |
| perfectly | | | | | | | | | | | | |
| reverse | | | | | | | | | | | | |
| research | | | | | | | | | | | | |
| earthen | | | | | | | | | | | | |
| worse | | | | | | | | | | | | |
| further | | | | | | | | | | | | |
| surface | | | | | | | | | | | | |
| certain | | | | | | | | | | | | |
| curtain | | | | | | | | | | | | |
| concern | | | | | | | | | | | | |
| purchase | | | | | | | | | | | | |
| purpose | | | | | | | | | | | | |
| dessert | | | | | | | | | | | | |
| suburban | | | | | | | | | | | | |
| earliest | | | | | | | | | | | | |
| observant | | | | | | | | | | | | |
| conferred | | | | | | | | | | | | |
| germinate | | | | | | | | | | | | |
| circumnavigate | | | | | | | | | | | | |
| circumstance | | | | | | | | | | | | |

# SXW25

**ir ur or er**

| Word | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| adjourn | | | | | | | | | | | |
| burden | | | | | | | | | | | |
| burnish | | | | | | | | | | | |
| churning | | | | | | | | | | | |
| curvature | | | | | | | | | | | |
| discern | | | | | | | | | | | |
| disturbance | | | | | | | | | | | |
| imperfect | | | | | | | | | | | |
| murmur | | | | | | | | | | | |
| observant | | | | | | | | | | | |
| occurring | | | | | | | | | | | |
| personality | | | | | | | | | | | |
| preferred | | | | | | | | | | | |
| purposeful | | | | | | | | | | | |
| referral | | | | | | | | | | | |
| reversible | | | | | | | | | | | |
| slurred | | | | | | | | | | | |
| surgeon | | | | | | | | | | | |
| transferred | | | | | | | | | | | |
| urgent | | | | | | | | | | | |

完成每格里的作业，把日期填上。

## Word Work Grid

Complete each of the activities in this grid. Write the date you completed each activity on the line provided.

| **Syllable Sort** Write your spelling words in order from the least amount of syllables to the most. Words with the same number of syllables should be in alphabetical order.<br><br>Date:_____ | **Odd One Out** For each of your spelling words, write four words. One is your spelling word, two relate to your spelling word and one is the odd word out that doesn't fit with the other two.<br><br>Date:_____ | **Wacky Words** On a sheet of paper, write your spelling words in different directions, filling up the whole sheet. Use different colours and types of writing for each word.<br><br>Date:_____ | **Word Detective** Write three clues about each of your spelling words. Ask someone to try to guess your spelling words using your clues.<br><br>Date:_____ | **Digging in the Dictionary** Use a dictionary to find the definition and write a sentence for each of your spelling words.<br><br>Date:_____ |
|---|---|---|---|---|
| **Rhyming Wheels** Think of as many words as you can that rhyme with your spelling words.<br><br>Date:_____ | **Alliteration** Write a sentence for each of your spelling words using as much alliteration as possible.<br><br>Date:_____ | **Sentence Smart** Write a sentence for each of your spelling words.<br><br>Date:_____ | **Story Time** Write a story using as many of your spelling words as you can. Underline each of your spelling words.<br><br>Date:_____ | **Sort Them Out** Sort the words on your spelling list into three different categories of your choice.<br><br>Date:_____ |
| **Word Search** Create your own word search using all the words on your spelling list.<br><br>Date:_____ | **Handwriting Hero** Write out your spelling words in your very best cursive hand writing.<br><br>Date:_____ | **Letter Lingo** Write a letter to a friend. Use as many spelling words in your letter as you can.<br><br>Date:_____ | **Words Within Words** Make a list of as many smaller words as you can find from your spelling list.<br><br>Date:_____ | **Code Breaker** Use the code guide to make a code for each of your spelling words.<br><br>Date:_____ |

TeachStarter.com

# SENSE COUNTDOWN

1. Sit or stand straight and still. Close your eyes or look downward.

2. Take three deep breaths in and out.

3. Open your eyes.

- Notice **five** things you can see.
- Notice **four** things you can touch.
- Notice **three** things you can hear.
- Notice **two** things you can smell.
- Notice **one** thing you can taste.

# HEARTBEAT

1. Sit straight and still. Close your eyes or look downward.

2. Take three deep breaths in and out.

3. Place your fingers or hands over the part of your body where you can best feel your pulse (or heartbeat):
    - on the side of your neck, under your jaw
    - inside your wrist
    - over your heart.

4. Notice how quickly or slowly your heart is beating.

5. Think about your current feelings.

   Do you think this feeling is connected to how quickly or slowly your heart is beating?

6. Without speaking, stand up and jump on the spot ten times.

7. Sit down and find your heartbeat again.

   What changes do you notice? Is your heart beating faster or slower than you expected?
   Can you notice any change in your breath?

8. Close your eyes and focus on your heartbeat until it slows down again.
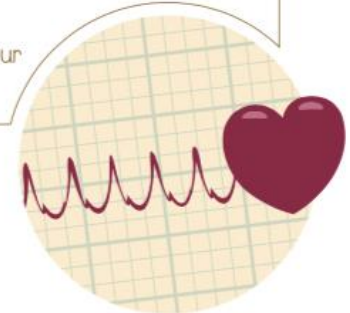
## Radical renovation

Your family has moved into a new home. You are allowed to decorate your bedroom in the colours and design of your choice.

Your room must have a decorative frieze with a geometric pattern around the walls, and a tiled floor with a triangular pattern in the centre involving flips, slides and turns in the centre.

Get creative! Investigate which combination of colours and patterns makes for a radical renovation.

### ✓ Topics

Before you start the Investigation you need to know…

| | |
|---|---|
| ☐ **NA7** Multiplication 3-digit x 2-digit.........................p44 | ☐ **MG12** Using scale.......................................p106 |
| ☐ **MG4** Perimeter of rectangles....................................p90 | ☐ **MG17** Flip, slide, turn ..............................p116 |
| ☐ **MG5** Area of rectangles............................................p92 | ☐ **MG18** Enlargement properties of shapes............p118 |

### Understanding the Investigation

**1 Read and plan.**

Make sure you understand the meanings of: *radical, renovation, frieze, geometric, feature, decorative, actual, combination* and *represent.*

Read and discuss the rubric.

Download your Investigation plan. This will help you with the organisation and understanding of the Investigation.

> **Teacher note**
> - Comprehensive lesson notes, suggestions and resources are available in *iMaths 5 Teacher Book.*
> - The BLM and Investigation plan for this Investigation can be downloaded from **www.imathsteachers.com.au**.

## Materials

Internet access | BLM 10.1 | Paper or card for frieze | Craft materials | Ruler
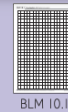
### Using maths

**2 Draw a floor plan.**

Your bedroom measures 6 m by 4 m. To draw a floor plan on an A4 centimetre grid, you need to scale your bedroom measurements. Try making 1 cm (the length of one grid square) represent 1 m. You could also try making 1 cm represent 50 cm, or 1 cm represent 25 cm.

What would 1 cm need to represent, so that the floor plan will be a suitable size? This will become your scale. Accurately draw the floor plan on the **BLM 10.1**, and show your scale.

**3 Calculate the area.**

How much floor space does your bedroom have? Calculate the area of your room and write it on the plan. Show your working.

**4 Design the pattern using flips, slides and turns**

Try out some triangular patterns that may look good on your tiled bedroom floor. They must include flips, slides and turns.

Decide the size of the feature and mark it on the floor plan. Colour the pattern to make an attractive feature.

**5 Calculate the perimeter of the pattern.**

The tiles of the pattern need a trim that goes all around the outside of the pattern. To do this you need to calculate the perimeter of the patterned feature. Show your working. Round the perimeter to the nearest centimetre. Then use the scale on your plan to work out the actual perimeter in centimetres.

**6 Design the frieze.**

Calculate the actual length of frieze required to create a border around the room. Record this on the plan.

On A4 paper or card, use geometric shapes, flips, slides and turns to design a 20 cm section of the frieze.

### Reasoning and reporting

**7 Display and explain.**

Display your floor plan, calculations and frieze design.

Explain how you used flips, slides and turns in your designs. What assumptions did you make about the room to help you calculate the length of the frieze?

**imathskids.com.au**

Go to **imathskids.com.au** – The Investigation 10 area contains the Investigation plan, websites and BLM that you need to complete this Investigation.
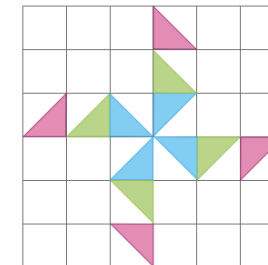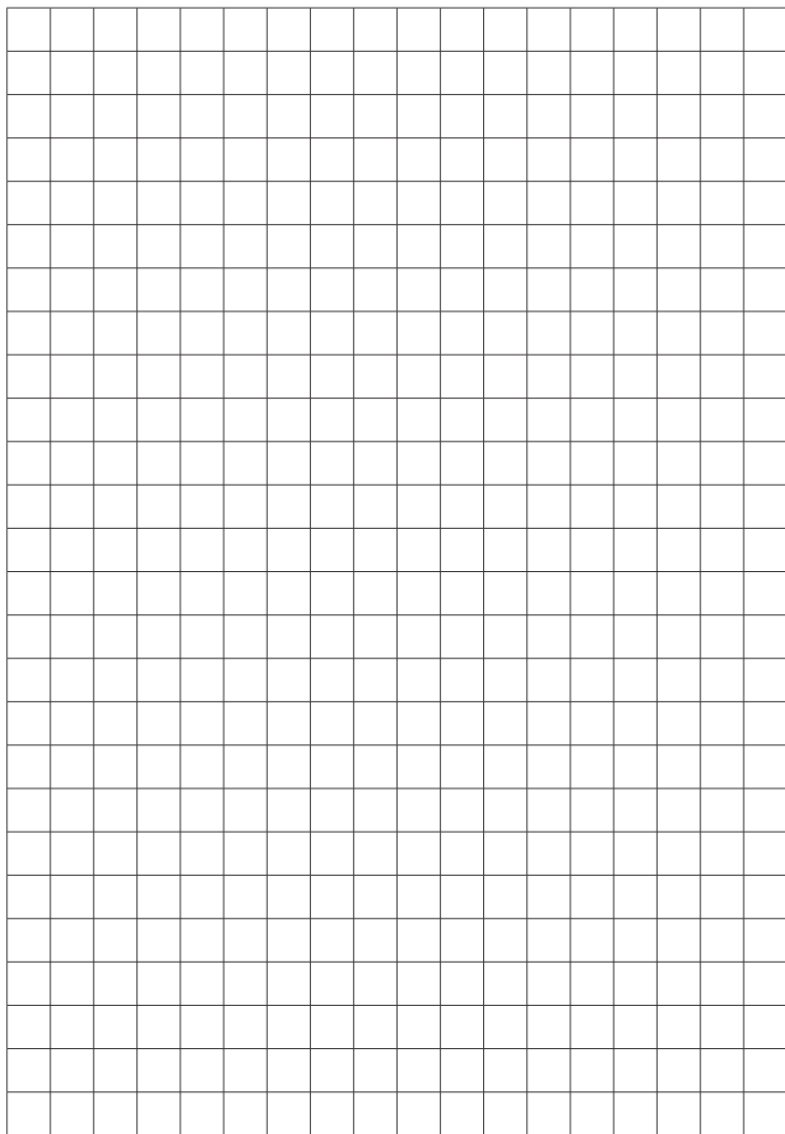
Sample triangular patterned feature using flips, slides and turns.

> **Inquiry**
> Choose one of the following activities:
> - include furniture to scale on your floor plan, or
> - calculate the amount of paint you would need to paint this room.

## iMaths 5 Investigation Plan

Student's name........................................................................................................................................ Due date................................................ .

My group..............................................................................................................................................................................................................

Now that I have read through the Investigation, I am going to make a plan that should help me understand this Investigation.

**Name of Investigation:**_____

I understand that this Investigation is asking me to:

_____

_____

_____

_____

This Investigation might present some challenges. I may need to solve these problems in order to complete this Investigation:

_____

_____

_____

I think these Topics are really important to this Investigation:

Topic                                          *Purpose* in this Investigation.

1 _____          _____

2 _____          _____

3 _____          _____

I believe I will have no problems with:

_____

I think I may need some help with:

_____

Select three words from the list in step 1. What do these words mean in the *context* of this Investigation?

Word                                          Meaning in this Investigation.

1 _____          _____

2 _____          _____

3 _____          _____

## NA6 Multiplication 4-digit x 1-digit

When you multiply a 4-digit number by a 1-digit number (for example, 4172 x 3), just remember to multiply the ones first, then the tens, the hundreds and finally the thousands in that order by the single digit.

| | |
|---|---|
| ones | (3 x 2 ones) |
| tens | (3 x 7 tens) |
| hundreds | (3 x 1 hundred) |
| thousands | (3 x 4 thousands) |

```
  T H t O
    2
  4 1 7 2
      multiply
  x     3
  1 2 5 1 6
```

**Tip**
Extras are carried into the next place when necessary, then added after the next multiplication.

To make sure your answer is reasonable, estimate your answer by rounding the 4-digit number to thousands and multiply. You can usually do this mentally.

```
  4172 round down        4000
  x    3          →      x    3
                        12 000  (estimate)
```

You can also use a calculator to check your answer.

### Try this

**1** Multiply these numbers. Round and estimate the answer first.

**a**
```
  3251
x    3
```
_____ (estimate)

**b**
```
  1615
x    6
```
_____ (estimate)

**c**
```
  8412
x    8
```
_____ (estimate)

**d**
```
  3785
x    5
```
_____ (estimate)

**e**
```
  2222
x    7
```
_____ (estimate)

**f**
```
  8841
x    2
```
_____ (estimate)

---

**2** Multiply these numbers. Round and estimate the answer first.

**a**
```
  6132
x    3
```
_____ (estimate)

**b**
```
  2761
x    3
```
_____ (estimate)

**c**
```
  8002
x    8
```
_____ (estimate)

**3** Suppose you live in Brisbane and your aunt lives in Cairns. The distance from Brisbane to Cairns is 1826 km. You travelled to Cairns and back three times last year. How many kilometres did you travel in the year?

**4** The table shows the price of a return air ticket from Australia to a number of cities in the world. The price of a round the world air ticket is also shown.

| Destination | Return flight |
|---|---|
| Hong Kong | $1169 |
| Tokyo | $1359 |
| Los Angeles | $1779 |
| Bangkok | $1015 |
| Round the world | $2359 |

**a** How much does it cost for a family of four people to fly to Tokyo and back?

**b** A group of three people want to fly around the world. A group of six people want to fly to Hong Kong and back. Which group will pay more?

**5** A Toyota RAV4 has a mass of 1590 kg.
A Toyota Landcruiser has a mass of 2555 kg.
A Toyota dealer orders 4 RAVs and 3 Landcruisers. What will be the total mass of all 7 vehicles?

### ★ Challenge

**Truckin' total:** Brisbane to Sydney by road is 1027 km. Sydney to Canberra is 290 km. Canberra to Brisbane is 1331 km. A long distance truck driver does the Brisbane–Sydney–Canberra–Brisbane route five times a month. How far does the truck driver travel on this route each month?

# NA7 Multiplication 3-digit x 2-digit

I'll show you two ways to multiply a 3-digit number by a 2-digit number.

### 1. Double and halve

To find the answer to the multiplication below, you double one number (15 x 2 = 30) and halve the other number (204 ÷ 2 = 102).

```
  204  ────────▶  102  (halved)
x  15             x  30  (doubled)
                  3060
```

### 2. Split and multiply

When multiplying a number by a 2-digit number, multiply by the ones digit first, then multiply by the tens digit.

```
    413        413
x    23      x   3          413
                         x   20
Multiply by the ones digit first.   1239  ◀──── 1239
Then multiply by the tens digit.  + 8260  ◀────      8260
Then add the two answers.           9499
```

Try this one.

```
    521        521
x    34      x   4
                           521
                         x   30

+
```

**Tip**

You can use a calculator to do these multiplications, and then use rounding and estimations to check your answer.

---

## Try this

**1** Use the double and halve strategy to find the answers to these.

**a**
```
  264
x  15  is  x
```

**b**
```
  102
x  35  is  x
```

**c**
```
  326
x  45  is  x
```

---

**2** Use the split and multiply strategy to find the answers to these.

**a**
```
    231
x    23   x
                    x

+
```

**b**
```
    473
x    57   x
                    x

+
```

**3** When using the double and halve strategy to multiply numbers, you sometimes halve the 2-digit number to give a single-digit number. This makes it easier to multiply.

**a**
```
  328
x  14  is  x
```

**b**
```
  115
x  18  is  x
```

**4** Nada needs 31 pieces of gold ribbon. Each piece of ribbon is 134 mm long. How much ribbon does Nada need to buy?

**5** Suppose your class was raising money for a trip to the snow. The cost of the trip is $325 per student. If there are 25 students in your class, how much will the class have to raise? Describe two ways you would use to work out this problem.

**a**

**b**

## Problem solving task

**Our leap problem:** How many hours in a leap year?
Use the space provided in *iMaths 5 Tracker Book* to work out your answer.

## Challenge

**An age old problem:** How many days have you lived on your twelfth birthday?
(Don't forget to add an extra day to the total for each leap year.)

# NA8 Lattice method of multiplication

This method of multiplication is also known as the Gelosia Method. Napier's Bones also involves using the grid method of multiplication. It is a very old method which probably originated in Arabia or India, and was passed on through China to Italy and the rest of Europe. The method is easy when the grid has been drawn. To learn how to do it, follow the examples below.
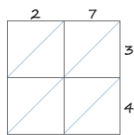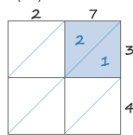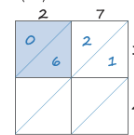
**Example 1:** 27 x 34

**1.** Draw the grid.
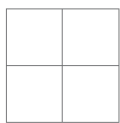
**2.** Draw diagonals and write on numbers.

**3.** Multiply 7 x 3. (21)

**4.** Multiply 2 x 3. (06)

**5.** Multiply 7 x 4. (28)
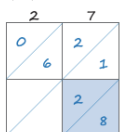
**6.** Multiply 2 x 4. (08)
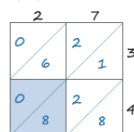
**7.** Add down the diagonals starting on the right. Regroup in the usual way.
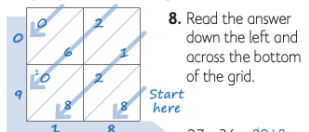
**8.** Read the answer down the left and across the bottom of the grid.

Start here

27 x 34 = 0918

**Example 2:** 253 x 48

253 x 48 = 12 144
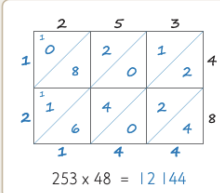
## Try this

**1** Use the lattice method of multiplication to work out 324 x 63.

324 x 63 = _____

---
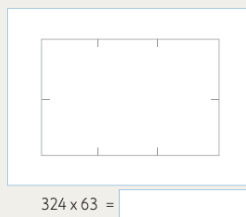
What did the fish say when it swam into the wall?

Topic NA8

**2** To solve the riddle, use the lattice method to work out the multiplications, then write the letter that matches the answer in the boxes below.

231 x 34

(A)

541 x 26

(O)

37 x 26

(H)

293 x 73

(M)

74 x 38

(D)

| 14 066 | 962 |
|--------|-----|

| 2812 | 7854 | 21 389 |
|------|------|--------|

## ⭐ Challenge

**Time your times:** Time yourself to complete each of these multiplications. Which method is quicker for you?

347
x  28
_____

| 3 | 4 | 7 |
|---|---|---|
|   |   |   | 2
|   |   |   | 8

Time: _____

Time: _____

Framework for teaching (non-digital) – Stage 3 sample

## MG5 Area of rectangles

How many squares are on my waffle iron? You could count the squares one by one but I'm sure you can see a quicker way. What about 8 x 4 = 32?

Finding the area of a rectangle is as simple as multiplying the length of the rectangle by its width.

The formula for finding the area of a rectangle is: $A_□ = L \times W$

4 m

8 m

$A_□ = L \times W$    (**Write** the formula.)
$= 8\,m \times 4\,m$    (**Replace** letters with numbers.)
$= 32\,m^2$    (**Calculate** the answer.)

### Try this

**1** Complete the table.

| | Rectangle | Length | Width | Area |
|---|---|---|---|---|
| a | | 7 cm | 3 cm | |
| b | | 6 cm | 2 cm | |
| c | | 6 cm | 4 cm | |
| d | | 5 cm | 3 cm | |
| e | | 8 cm | 2 cm | |

**2** This house plan is drawn to a scale of 1:100.
One centimetre represents one metre.
Use a ruler to measure the dimensions of each room then calculate the area.

**a** Bedroom 1
    3.5 m × 4 m
    14 m²

**b** Bedroom 2

**c** Bedroom 3

**d** Bedroom 4

**e** Kitchen

**f** Dining

**g** Lounge

**h** Family

**i** Bathroom 1

**j** Bathroom 2

**k** Toilet (WC)

**l** Laundry

**m** Garage

Bath 1
Bed 1
Bed 2
WC
Bath 2
Laundry
Bed 3
Family
Dining Kitchen
Bed 4
Lounge Entry
Garage
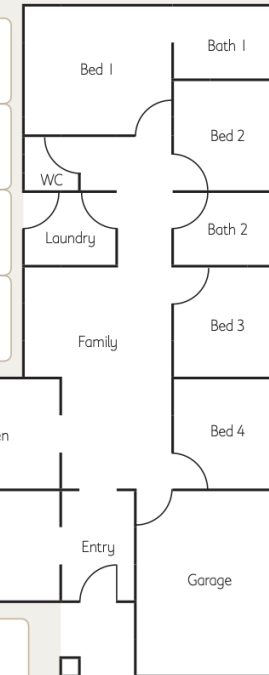
### ★ Challenge

**Alternate areas:** If the area of a rectangle is 24 cm², what could the dimensions (length and width) be? List four possible answers.

Topic MG5

## MG4 Perimeter of rectangles

**Perimeter** is the distance around the boundary of a shape.

Rectangles have two lengths and two widths. If you measure only one length and one width you can work out the perimeter (P). Simply add the length and the width (L + W), then double (x2).

Length and width

Length and width

W 4 m

L 10 m
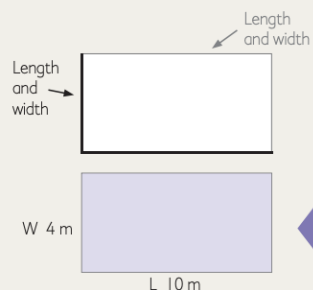
The formula for finding the perimeter of a rectangle is: $P_\square = (L + W) \times 2$

$P_\square = (L + W) \times 2$    (**Write** the formula.)
     $= (10\ m + 4\ m) \times 2$    (**Replace** letters with numbers.)
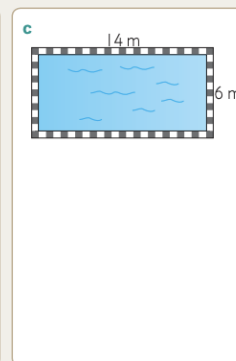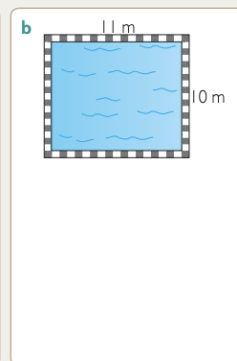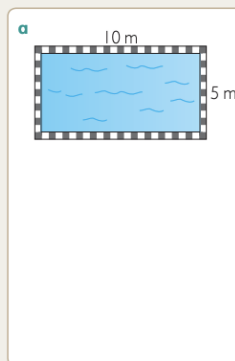     $= 28\ m$    (**Calculate** the answer.)

**Language reminder**
*perimeter* = peri: around + metron: measure

### Try this

1 Calculate the perimeter of these rectangles. Remember, add then double.

a
15 m
6 m

b
7 cm
3 cm

c
11 cm
4 cm

d
35 mm
5 mm
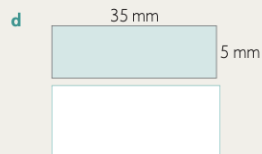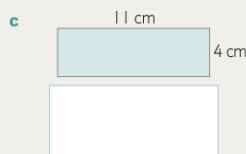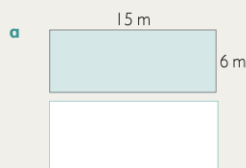
2 Calculate the perimeter of these swimming pools.

a
10 m
5 m

b
11 m
10 m

c
14 m
6 m

### Problem solving task 1

**Anika's Animal Nursery:** Anika visits school fairs and carnivals with her baby animal nursery. She has 28 portable fence panels to make a rectangular nursery pen for the animals. Each fence panel measures 1 metre. Design all the possible rectangular pens using all 28 panels for a single enclosure. Use the space provided in *iMaths 5 Tracker Book* to work out your answer.
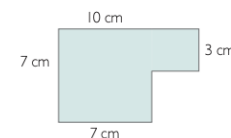
### Problem solving task 2

**Soccer field:** The perimeter of our soccer field is 300 metres and the width is 50 metres. How long is the field? Use the space provided in *iMaths 5 Tracker Book* to work out your answer.

### Challenge

**Perimeter in pieces:** Calculate the perimeter of this shape.

10 cm
7 cm
3 cm
7 cm

Framework for teaching (non-digital) – Stage 3 sample

Gary Hirsch is an artist from Portland, Oregon. He has created BotJoy to spread joy and humanity. To date he has painted close to 60 000 Bots that he has sent out into the world.

# What countries are there on the continent of Asia?

**1** Colour and label each of the continents on the world map below. Add in the North Point, a legend and a title for the map.

**Legend**

Asia is the largest continent in the world, covering approximately thirty percent of the earth's surface. Asia has the greatest population of all the continents. Over four billion people across more than forty countries live here. Asia has a variety of geographical features including mountains, plateaus, plains and deserts as well as freshwater and saltwater environments.

**2** Write down the names of any Asian countries you have heard of or have visited.

**3** Use the detective cards below to race your way around Asia.

Working in pairs, read the clues on each card to work out which Asian country it relates to. Find this country on the map of Asia on the following page. Label and colour this country.

| | | |
|---|---|---|
| Forty five billion pairs of chopsticks made each year. | Black sand desert | An island. Sits on the 80 degrees east longitude line. |
| An archipelago. Four main islands. More than 6,000 small islands. | Flag features a crescent and a star. | Tallest building in the world. |
| No chewing gum. | Hills made of chocolate. | Has the most rivers in the world. |
| Bengal tiger |  | Longest capital city name in the world. |

**4** Look at the list of Asian countries below. Use an atlas to help you find one country from each region and then colour and label it on the map.

ASIA

**Countries of Asia**

| North-east | South-east | South | Central | West | | |
|---|---|---|---|---|---|---|
| China | Brunei | Afghanistan | Kazakhstan | Armenia | | |
| Japan | Cambodia | Bangladesh | Kyrgyzstan | Azerbaijan | | |
| Mongolia | Timor-Leste | Bhutan | Tajikistan | Bahrain | | |
| North Korea | Indonesia | India | Turkmenistan | Cyprus | | |
| South Korea | Laos | Iran | Uzbekistan | Georgia | | |
| Taiwan | Malaysia | Maldives | | Iraq | | |
| Russia | Myanmar | Nepal | | Israel | Palestine | Turkey |
| | Philippines | Pakistan | | Jordan | Qatar | United |
| | Singapore | Sri Lanka | | Kuwait | Saudia | Arab |
| | Thailand | | | Lebanon | Arabia | Emerites |
| | Vietnam | | | Oman | Syria | Yemen |

**5** Find some interesting facts about four countries in Asia and make detective cards for them. Share your card clues with a partner and see how quickly they can find the matching countries.

**6**

**a**   Open Google Earth and find the Early Connectors section. (To do this, Select the Voyager icon then select Education, then scroll down to Explorers: Early Connectors).

Choose either Marco Polo, Ibn Battuta or Zheng He. Follow and investigate their exploration of parts of Asia.

**b**   Make your own fact file about their journey. Include geographical features and places they came across along the way.

23

# Phases of Matter

Matter is any physical substance that occupies space and possesses mass. All matter is made up of particles called atoms, or a combination of atoms called molecules. The three common states of matter are solid, liquid and gas. We call each of these a phase of matter.

## Solids

Solids are substances that hold their shape and have fixed volumes. It is almost impossible for a solid to be compressed or forced to occupy a smaller space. Some solid substances include wood, ice, rubber, glass, metal and paper.

The particles (atoms or molecules) of a solid have a regular pattern and are packed together tightly. This creates a rigid, dense substance. Even though they continuously vibrate, the particles of a solid are not free to move around from one place to another.
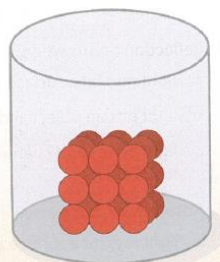
## Liquids

Just like solids, liquids have a fixed volume and cannot be easily compressed or squeezed into a smaller space. A liquid's particles are closely packed together. They have slightly more space between them than solids, and no regular pattern. This means they can move and slide around freely causing the substance to continuously change shape, depending on what kind of container it is being held in. Some examples of liquids include water, fruit juice, shampoo, blood and petrol.
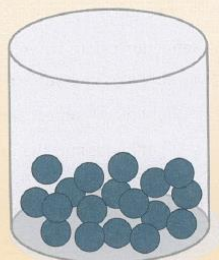
## Gases

Gases have no fixed volume and do not have a fixed shape. Particles of gas are held together by very weak forces, allowing them to move around quickly and freely due to the lack of a regular pattern holding them together.

Similar to liquids, gases do not have a fixed shape. Gases have the ability to expand or contract to fill the object or container they are in. Gases can also be compressed. This means they can be packed and squashed into smaller spaces. Some examples of gases include air, water vapour and natural gas.
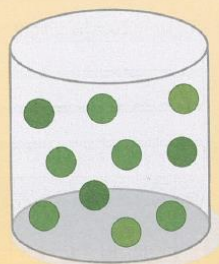
1  What is matter?

_____

_____

2  What are the three common states of matter?

[          ]  [          ]  [          ]

3  Shade **true** or **false**.

a  Solids hold their shape and have fixed volumes.   [ true ] [ false ]

b  Solids can easily be compressed into small spaces.  [ true ] [ false ]

c  Petrol is a solid.   [ true ] [ false ]

4  List six examples of liquids.

[          ]  [          ]
[          ]  [          ]
[          ]  [          ]

5  Describe how the particles of a liquid are arranged.

_____

_____

6  Describe how the particles of a gas are arranged.

_____

_____

7  Can a gas be compressed? Explain.

_____

_____

8  Look around your school or classroom. Find substances not mentioned in the text that fit under the headings below.

| Solid | Liquid |
| --- | --- |
|  |  |
|  |  |

9  Can you think of another gas not mentioned in the text? Write it below.

_____

## Challenge Option

Research to find the melting point of glass and aluminium.